

Status and initial science results based on use of the VIIRS+CrIS fusion radiance product

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CERES Science Team Meeting
September 16, 2020

Remote Sensing Special Issue

Title: Analysis of Decadal-Scale Continuous Data Products from Weather Satellite Platforms

Goals:

- clearly document, at a minimum, Terra/Aqua/S-NPP+ continuity products
- summarize key findings, algorithms, uncertainties, etc.
- currently 8 papers published (4 from CERES); 2 more in review

Guest editors: Bryan Baum; Ping Yang; Hartwig Deneke

Relevant details:

- New papers accepted until end of 2020
- No page limit
- Papers will be published as soon as they complete the review process
- Review process moves very quickly; be prepared for this
- Cost is 1800 Swiss francs (about \$1850 USD)

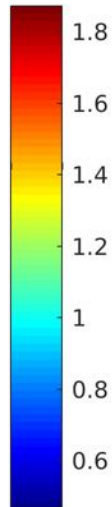
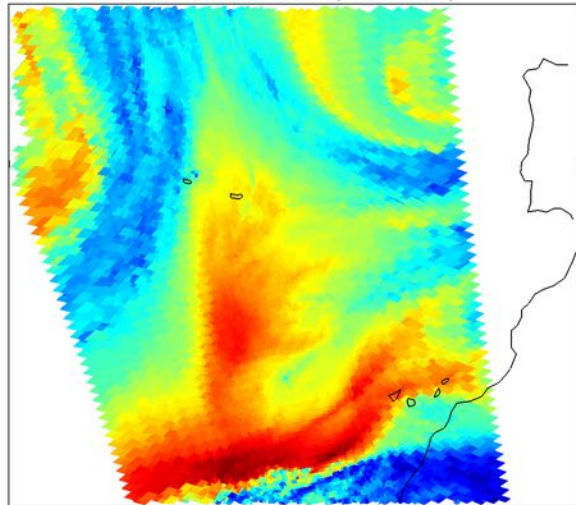
https://www.mdpi.com/journal/remotesensing/special_issues/weather_satellite

Fusion Provides MODIS-like IR Channels for VIIRS

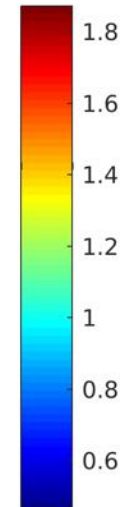
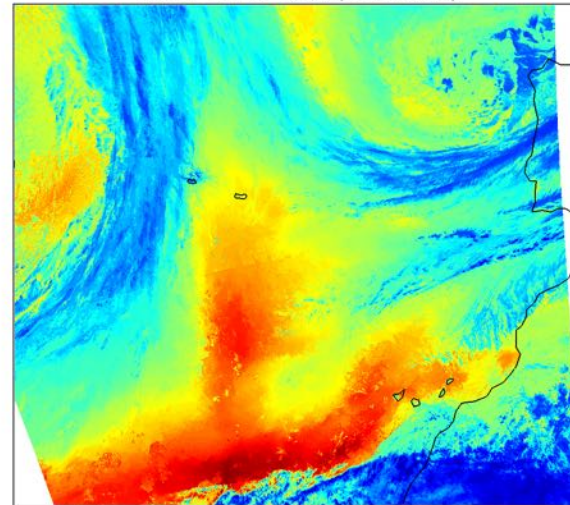
CrIS Radiances ($\text{W m}^{-2} \text{ str}^{-1} \mu\text{m}^{-1}$)

Fusion Radiances ($\text{W m}^{-2} \text{ str}^{-1} \mu\text{m}^{-1}$)

Convolved Rad (band 27)



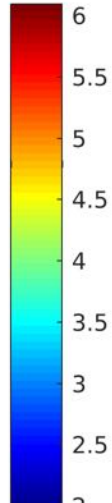
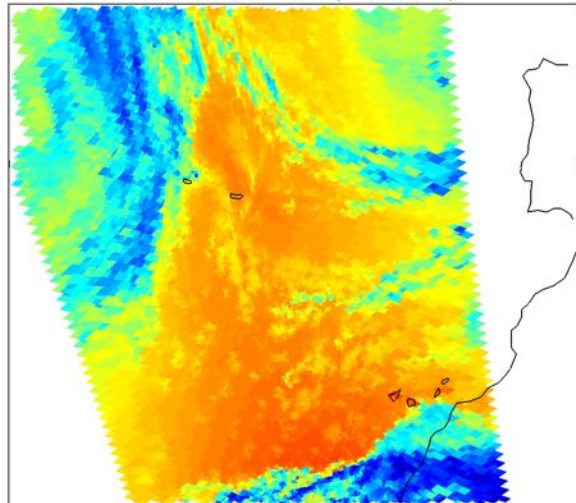
New VIIRS Rad (band 27)



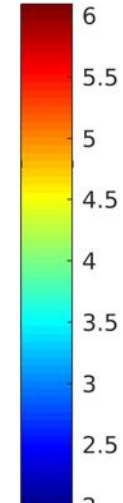
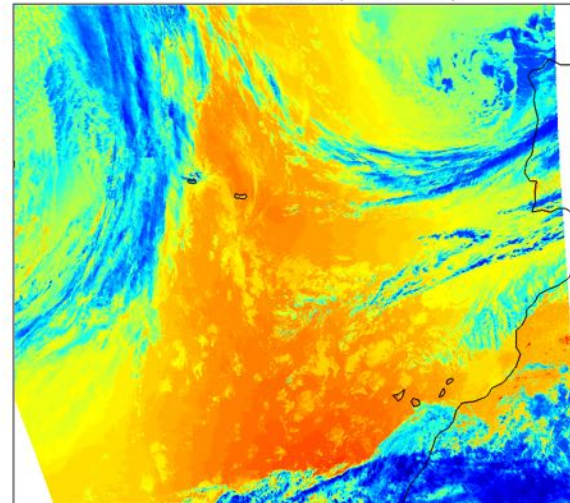
6.7- μm
MODIS Band 27

Fusion is
provided for full
VIIRS swath at
M-band
resolution
(750m)

Convolved Rad (band 33)



New VIIRS Rad (band 33)



13.3- μm
MODIS Band 33

Fusion products (V1) are now operational for both S-NPP and NOAA-20: Search for “VIIRS CrIS data fusion”

The relevant Aqua MODIS-like IR radiance channels (MODIS channels 23,24,25, 27,28,30,31,32,33,34,35,36) are provided in a VIIRS Level 2 granule (NetCDF4).

Additionally, VIIRS (measured – fusion) brightness temperature differences are included for VIIRS M15 and M16 → Necessary for Optimal Estimation methods.

The VIIRS+CrIS Fusion product page (overview/documentation):

<https://ladsweb.modaps.eosdis.nasa.gov/missions-and-measurements/science-domain/viirs-cris-fusion>

Direct access to the S-NPP VIIRS+CrIS fusion product archive:

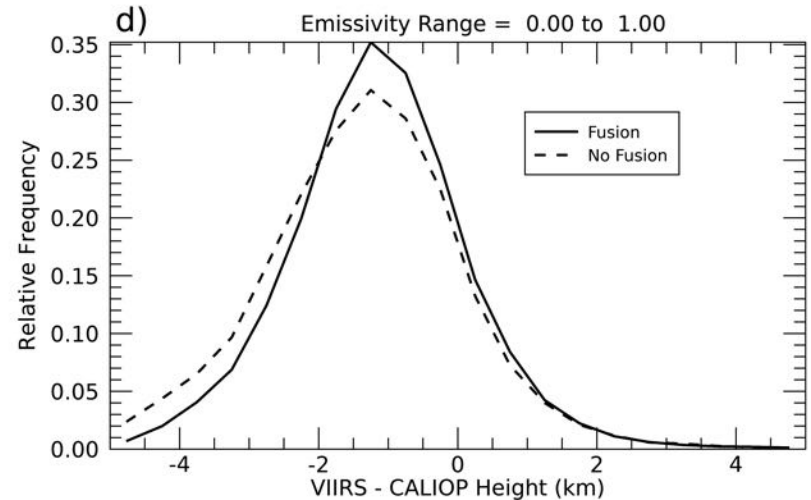
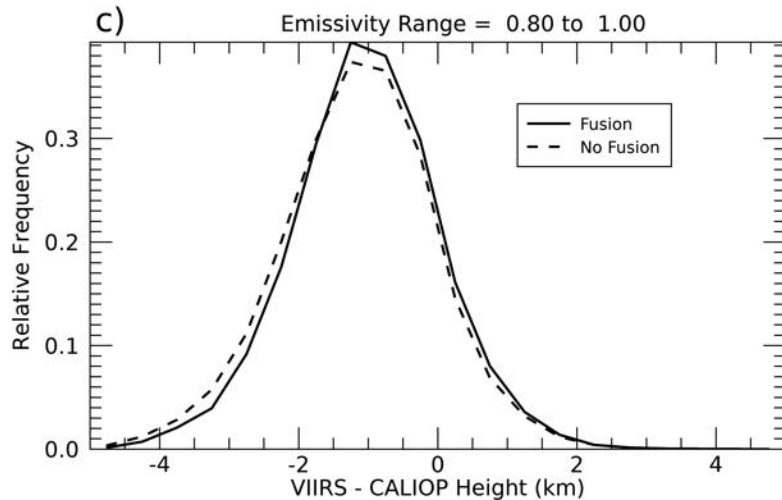
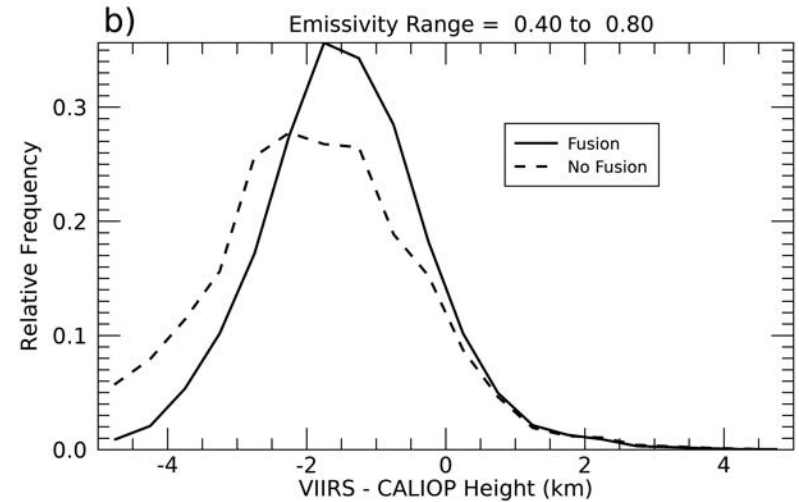
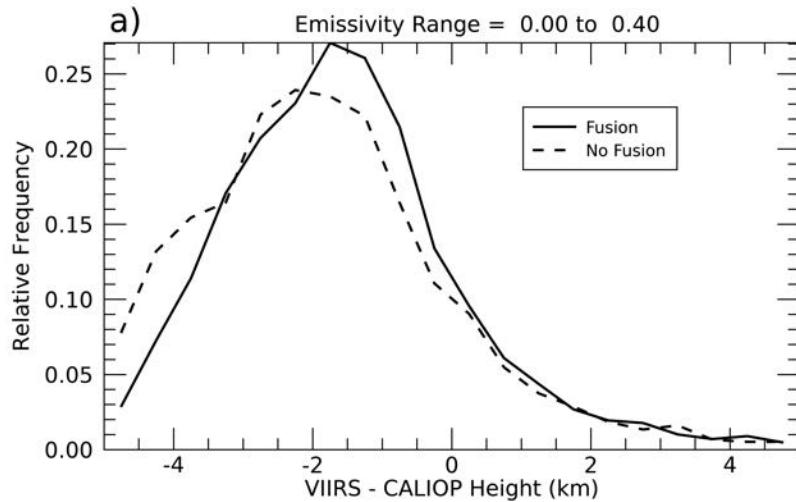
https://ladsweb.modaps.eosdis.nasa.gov/archive/allData/5110/FSNRAD_L2_VIIRS_CRIS_SNPP

Direct access to the NOAA-20 VIIRS+CrIS fusion product archive:

https://ladsweb.modaps.eosdis.nasa.gov/archive/allData/5110/FSNRAD_L2_VIIRS_CRIS_NOAA20

Suomi-NPP ACHA – CALIPSO comparisons for ice cloud heights

*No fusion: 8.5, 11, 12 μm . With fusion: 8.5, 11, 12 & **13.3 μm***



Li, Y., Baum, B. A., Heidinger, A. K., Menzel, W. P., and Weisz, E., 2020: Improvement in cloud retrievals from VIIRS through the use of infrared absorption channels constructed from VIIRS-CrIS data fusion, *Atmos. Meas. Tech.*, **13**, 4035-4059, <https://doi.org/10.5194/amt-13-4035-2020>.

Zonal averages of S-NPP CTH differences (VIIRS-CALIOP) for ice clouds

No fusion: 8.5, 11, 12 μm . *With fusion:* 8.5, 11, 12 & **13.3** μm

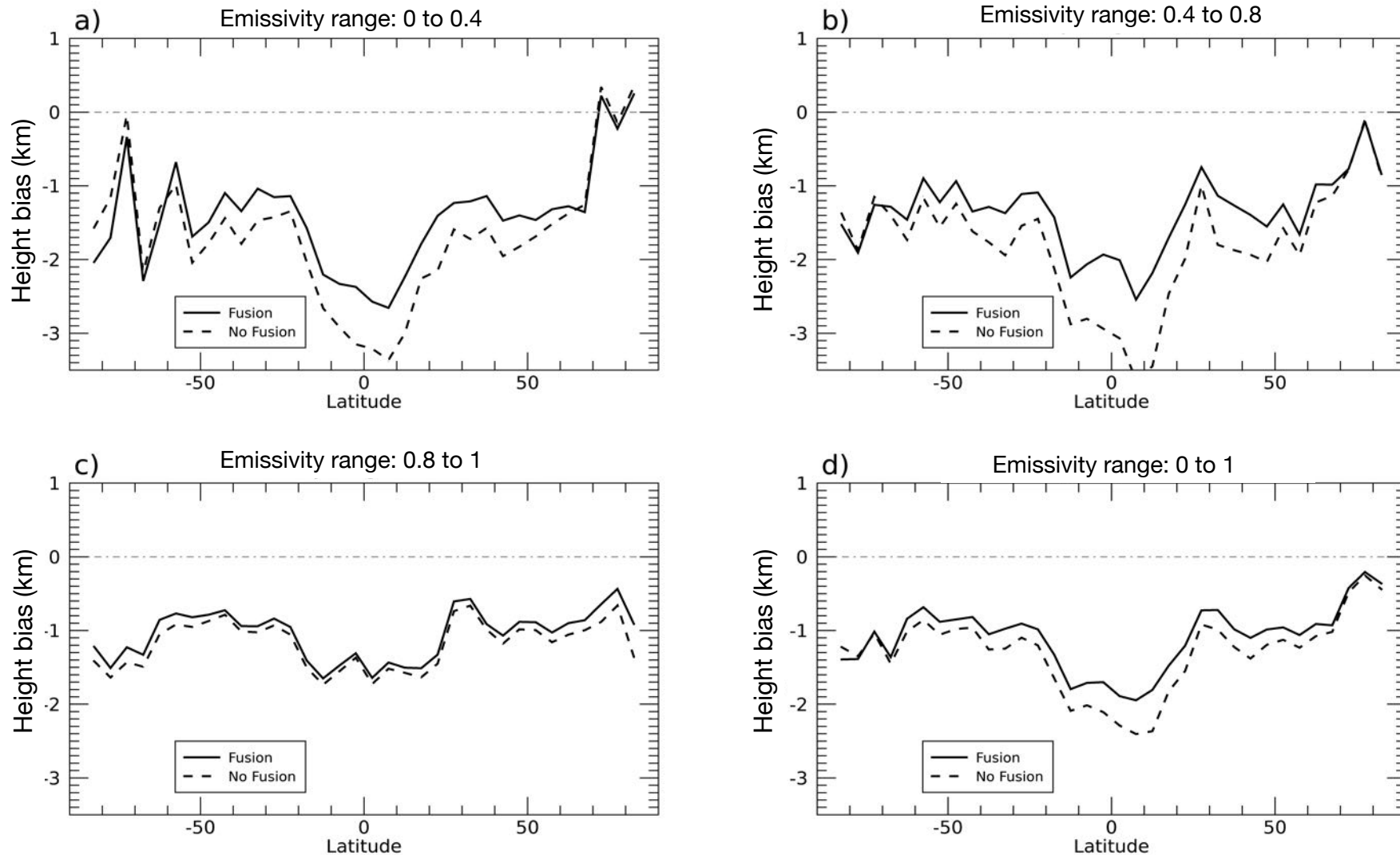


Figure from Li et al. (2020)

TPW from fusion is in line with Aqua MODIS product

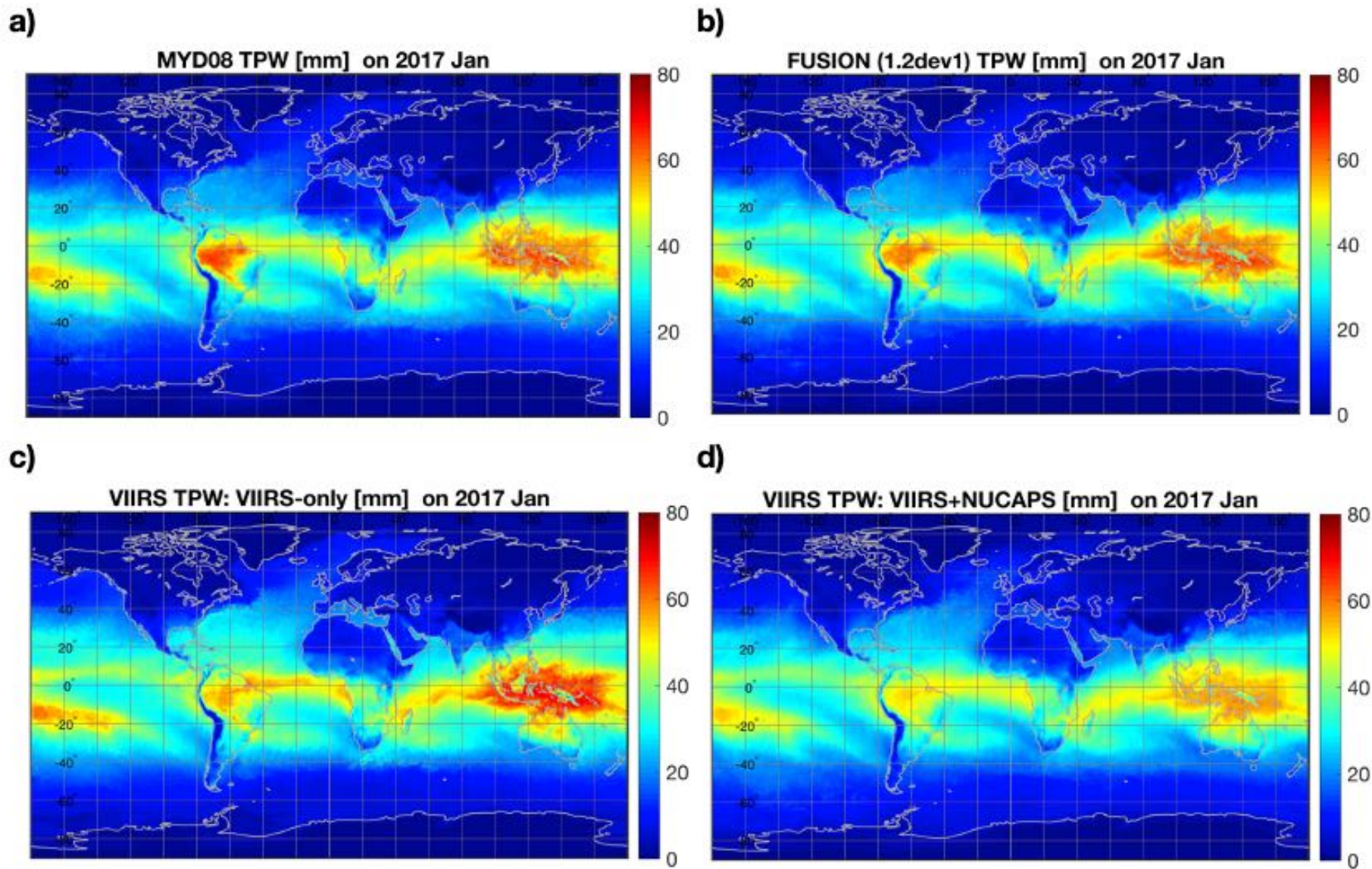
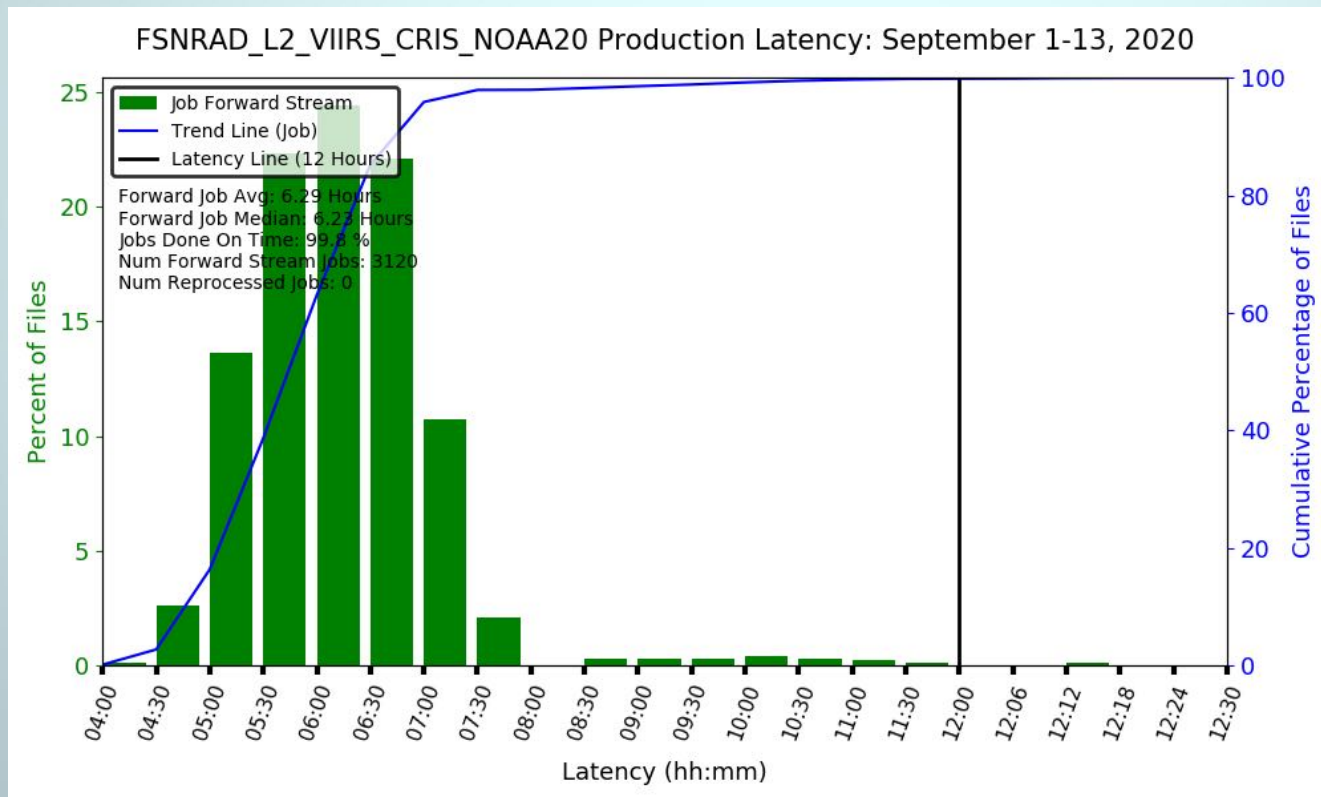


Figure from Borbas, Weisz, Moeller, Menzel, and Baum: Improvement in tropospheric moisture retrievals from VIIRS through the use of infrared absorption bands constructed from VIIRS and CrIS data fusion. In review, *Atmos. Meas. Tech. Disc.*, <https://doi.org/10.5194/amt-2020-248>.

VIIRS+CrIS Product Availability

1. VIIRS Warm-Up, Cool-Down calibration periods present the greatest loss of fusion product (more to follow on this)
2. Otherwise, loss of fusion product appears to be due to the unavailability of VIIRS granules that were not present in the Atmosphere SIPS archive at the time of production. We are looking into backfilling the gaps.
3. Missing CrIS granules are not an issue but note the loss of the MWIR data (water vapor bands) on S-NPP between March 26 at 18:27 UTC – June 6, 2019. We were able to construct the other MODIS-like channels during this period (MODIS bands 23-25, 30, 33-36).



From A-SIPS
in-house
production
monitoring
infrastructure

Fusion Product Latency

Product generation to confirmed delivery at LAADS

Snapshot for June, July, August 2020

	Production Latency (Hrs)				Uploaded Delivery Latency (Hrs)		Confirmed Delivery (Hrs)	
	SNPP		NOAA-20		SNPP	NOAA-20	SNPP	NOAA-20
	Avg	Median	Avg	Median	Avg	Avg	Avg	Avg
June	6.3	6.2	6.2	6.2	6.3	6.2	6.5	6.4
July	6.5	6.2	6.2	6.2	6.5	6.3	6.7	6.5
August	6.6	6.1	6.3	6.2	6.6	6.4	6.8	6.6

Delivery to LAADS occurs right after production

~ 20 minutes after the SIPS creates a granule, LAADS has it

~ 20 minutes after LAADS has a granule, it's available in CMR (common metadata repository)

Delivery times are fairly consistent from month to month

2020 99% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Sep	100	100	100	100	100	100	100	100	40																							98
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jul	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jun	99	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	99
May	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Apr	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Mar	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	99
Feb	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jan	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99

2019 99% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Dec	100	100	98	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Nov	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	99
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sep	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jul	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jun	100	100	100	100	100	100	100	100	100	100	99	100	98	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100	99
May	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Apr	100	100	100	100	100	100	100	100	100	95	98	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Mar	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Feb	100	100	100	98	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99

2018 98% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Dec	100	100	79	100	100	100	98	100	100	100	100	100	98	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Nov	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sep	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Aug	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	99
Jul	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	42	100	100	100	100	100	100	100	100	100	100	100	100	100	98
Jun	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100	98	100	100	100	100	100	100	100	100	100	99
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	99
Apr	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	98	100	100	100	100	100	99
Mar	100	100	97	100	100	100	100	98	100	100	59	0	82	100	100	98	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	94
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	93	94	96	84	0	0	17	100	98	100	100	100	100	100	100	88

NOAA-20 Fusion Production Stats

For NOAA-20: the failure rate
is ~ 0.1% .

Appears to be a WUCD period
in March 2018; maybe another
in February 2018 after VIIRS
just became operational.

We are investigating the
occasional loss of fusion
granules in the record.

Just learned that the A-SIPS
periodically checks with the
Land SIPS to fill in gaps

2020 99% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Sep	100	97	100	100	100	100	89	100	40																							97
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	99
Jul	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jun	100	99	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	99
May	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Apr	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Mar	100	100	100	100	98	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	93
Feb	100	100	100	100	95	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jan	100	100	100	100	100	97	100	93	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99

2019 99% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Dec	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	99
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	82	99
Sep	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Aug	100	100	100	100	100	100	100	100	100	100	99	100	98	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jul	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jun	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	86	92	100	100	100	100	100	100	99
May	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	99
Apr	100	100	100	100	98	73	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Mar	100	100	100	100	100	100	100	97	100	100	100	100	100	100	100	100	98	100	24	0	85	100	100	100	100	100	84	100	100	100	100	93
Feb	94	100	100	100	100	100	100	100	100	100	98	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	84	98	100	100	100	100	100	100	100	100	100	99

2018 98% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	99	
Nov	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	98	100	100	100	100	100	100	100	100	100	100	100	100	99	
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Sep	100	100	100	100	100	100	100	100	100	100	100	93	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	
Aug	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	
Jul	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Jun	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	98	100	100	100	100	100	100	100	100	100	93	
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	99	
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	99	
Mar	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	93	
Feb	100	100	100	100	100	100	100	100	100	100	100	100	89	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100			99	
Jan	91	100	100	100	100	100	100	100	100	100	91	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	89	100	100	99

S-NPP Fusion Production Stats

For Suomi-NPP: the failure rate is < 2% since 2012.

Primary cause of missing fusion granules corresponds with periodic VIIRS Warm-Up, Cool-Down (WUCD) calibration maneuver.

2017 97% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total		
Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	24	0	85	100	90	100	100	100	100	100	100	98	94	86	92		
Nov	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	99	100	97	92		99		
Oct	100	100	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98		99	
Sep	100	100	100	59	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	99	54	100		90	
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	89	100	100	100	100		99
Jul	100	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		99
Jun	99	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	100	100	100		93
May	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		99
Apr	100	100	100	100	98	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		99
Mar	100	100	100	100	100	100	100	98	100	100	100	100	24	0	83	100	100	100	100	100	100	100	100	100	100	98	89	100	100	100	100	100		93
Feb	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		99
Jan	100	100	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		99

2016 97% available

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Dec	100	100	100	100	100	100	100	100	100	98	100	24	0	85	100	100	100	100	100	84	100	100	100	100	100	100	100	100	100	100	100	93
Nov	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	99
Sep	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	100	100	93
Aug	100	100	100	100	100	100	100	100	100	100	100	100	89	100	100	100	97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Jul	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jun	89	100	100	100	100	93	56	81	80	89	100	100	24	0	83	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	90
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99
Apr	93	100	100	100	100	97	100	100	100	100	100	100	100	100	100	100	98	100	93	97	100	100	98	100	100	100	100	100	100	100	100	99
Mar	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	93
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	98	100	100	98	100	100	88	100	100	100	100	100	100	100	99
Jan	100	100	100	100	100	81	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	99

2015 97% available

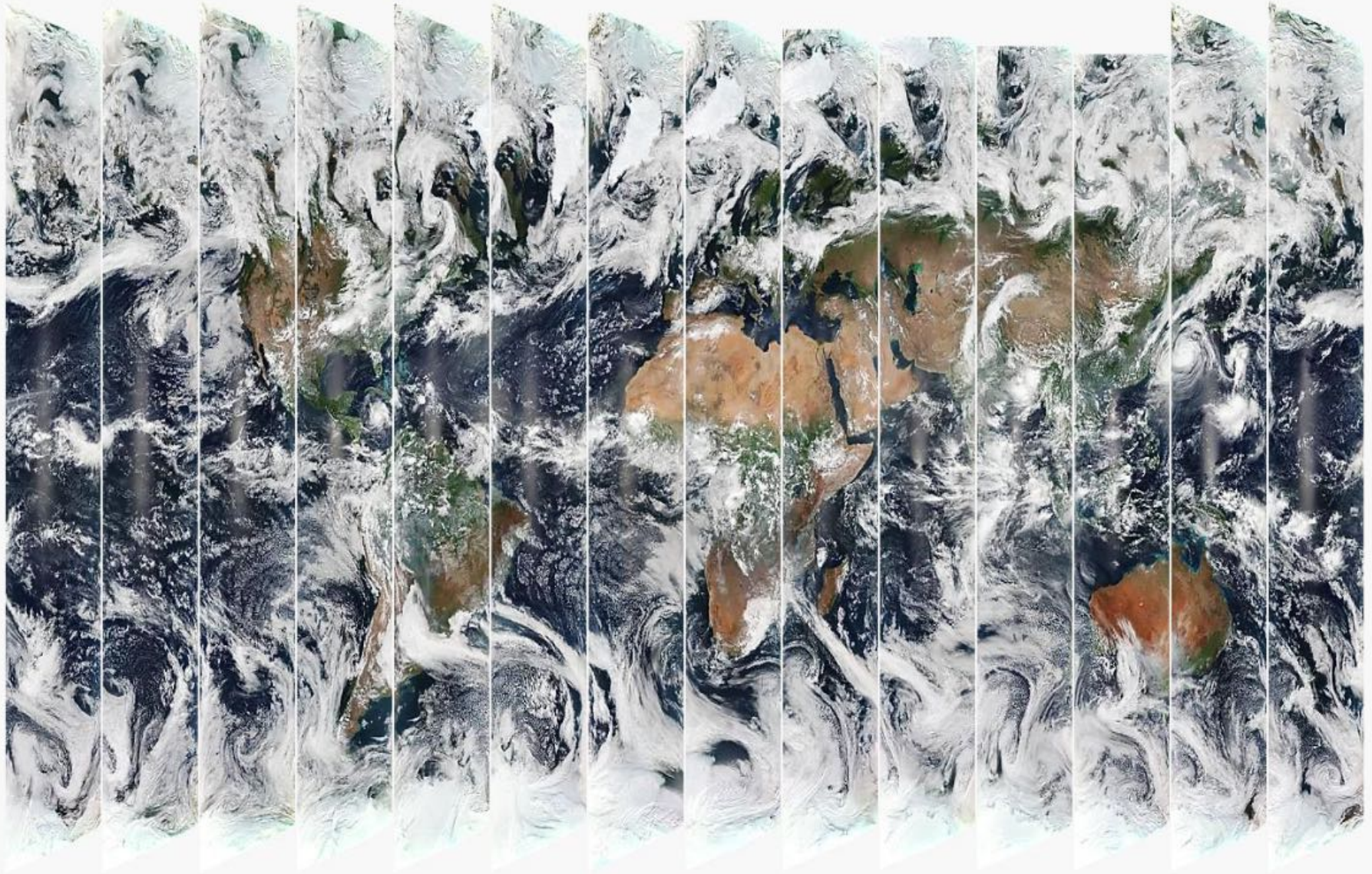
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Dec	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	89	100	100	98	100	100	100	100	77	100	100	100	100	98	92
Nov	100	98	100	100	100	100	100	86	97	100	100	100	100	100	100	100	100	100	73	100	100	98	100	100	100	100	100	100	100	100	98	
Oct	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Sep	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	98	100	100	100	100	100	100	100	100	100	98	93
Aug	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	99
Jul	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Jun	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	98	100	100	100	93	
May	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	99
Apr	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	97	100	99	
Mar	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	24	0	85	100	100	100	100	100	100	100	100	100	100	100	98	100	93
Feb	100	100	100	100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	
Jan	100	100	Screenshot			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	92	100	98	100	99	

S-NPP Fusion Production Stats 2015-2017

Primary cause of missing fusion granules corresponds with periodic VIIRS Warm-Up, Cool-Down (WUCD) calibration maneuver.

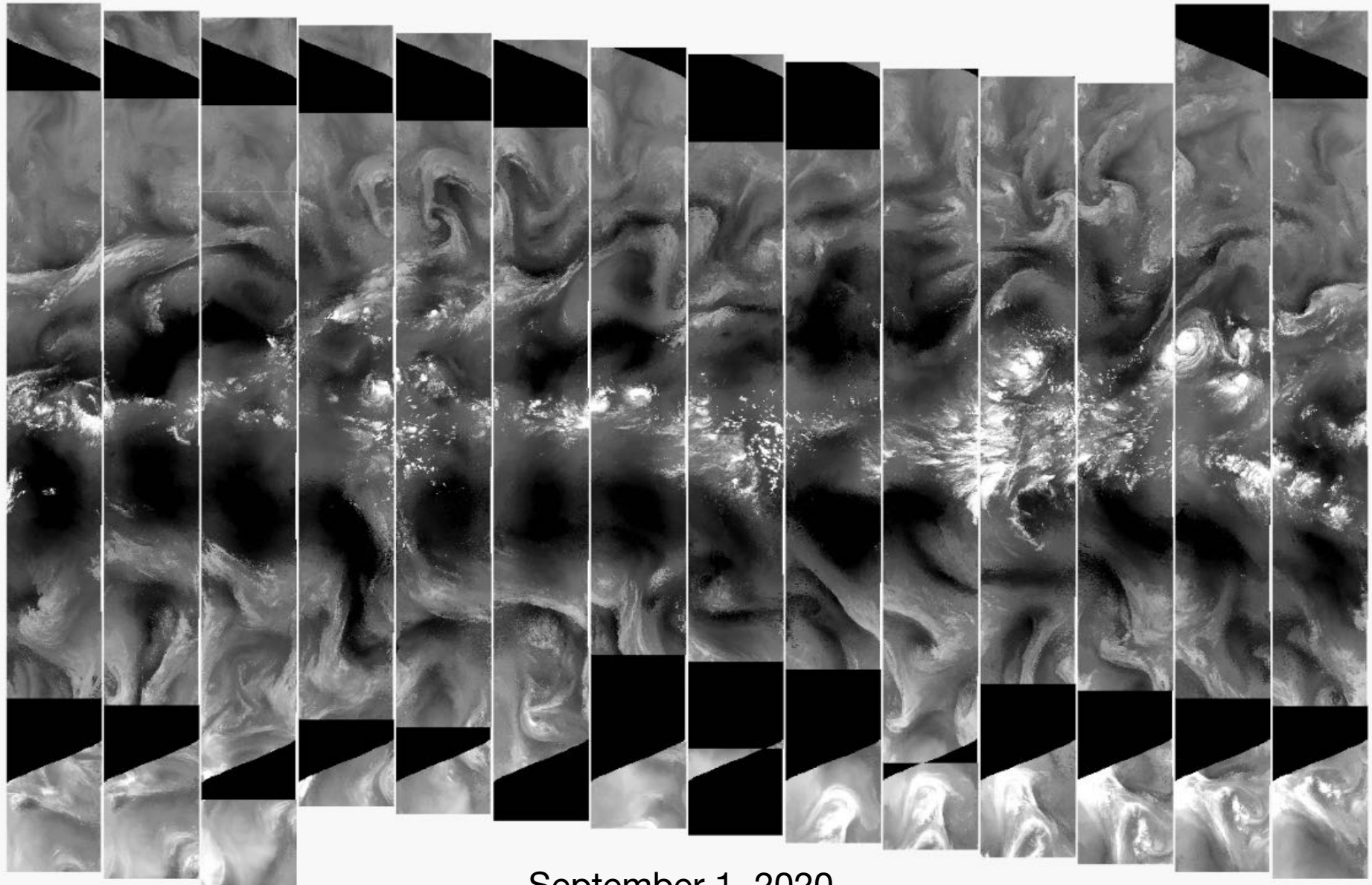
Current focus for testing is on June 2016, the worst month of coverage in the S-NPP record

Quicklook Granule Viewer: S-NPP VIIRS true color
Atmosphere SIPS (<https://sips.ssec.wisc.edu/>) → Products → Quicklooks



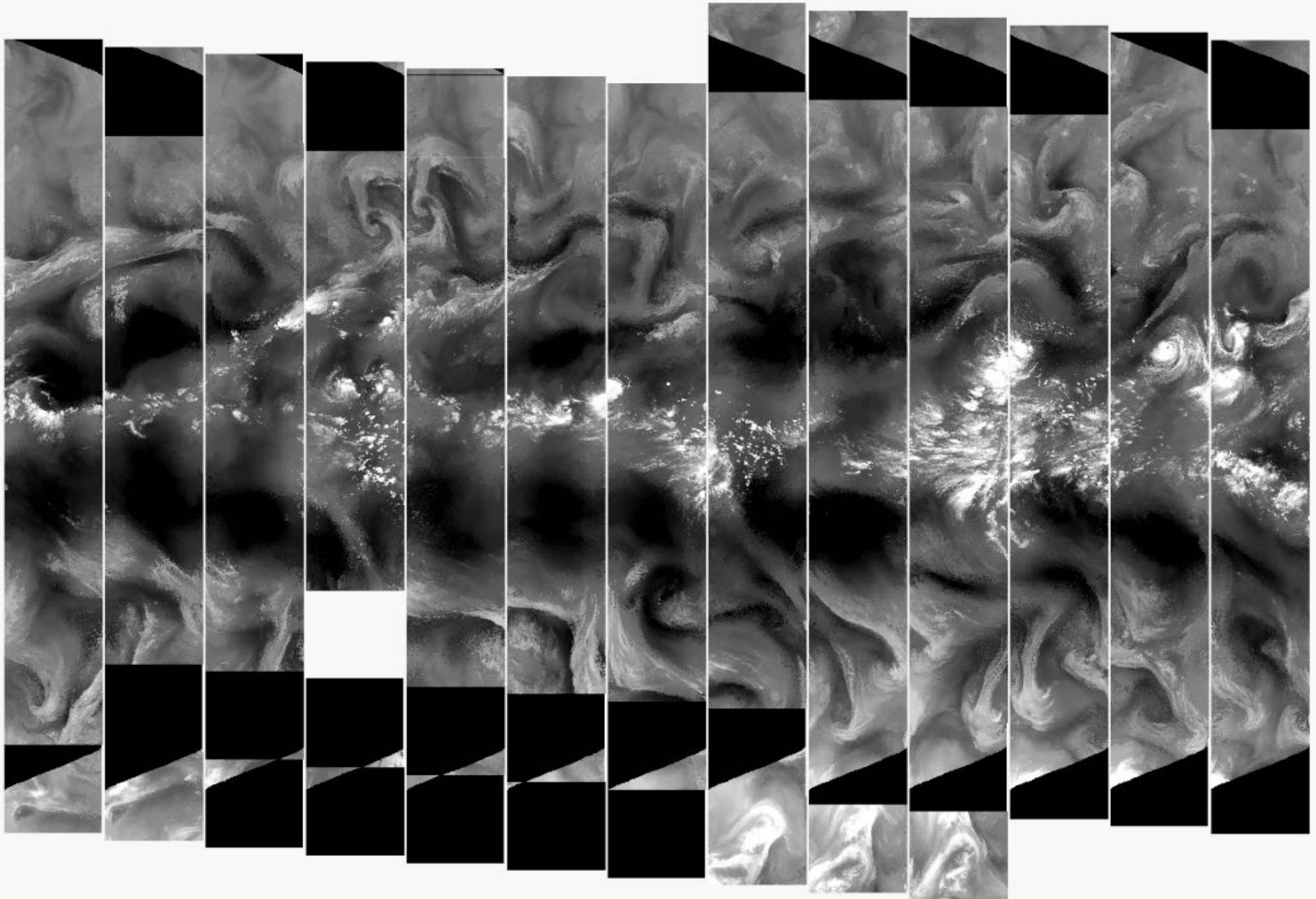
September 1, 2020

Quicklook Granule Viewer: S-NPP VIIRS 6.7- μm Fusion Channel Daytime



September 1, 2020

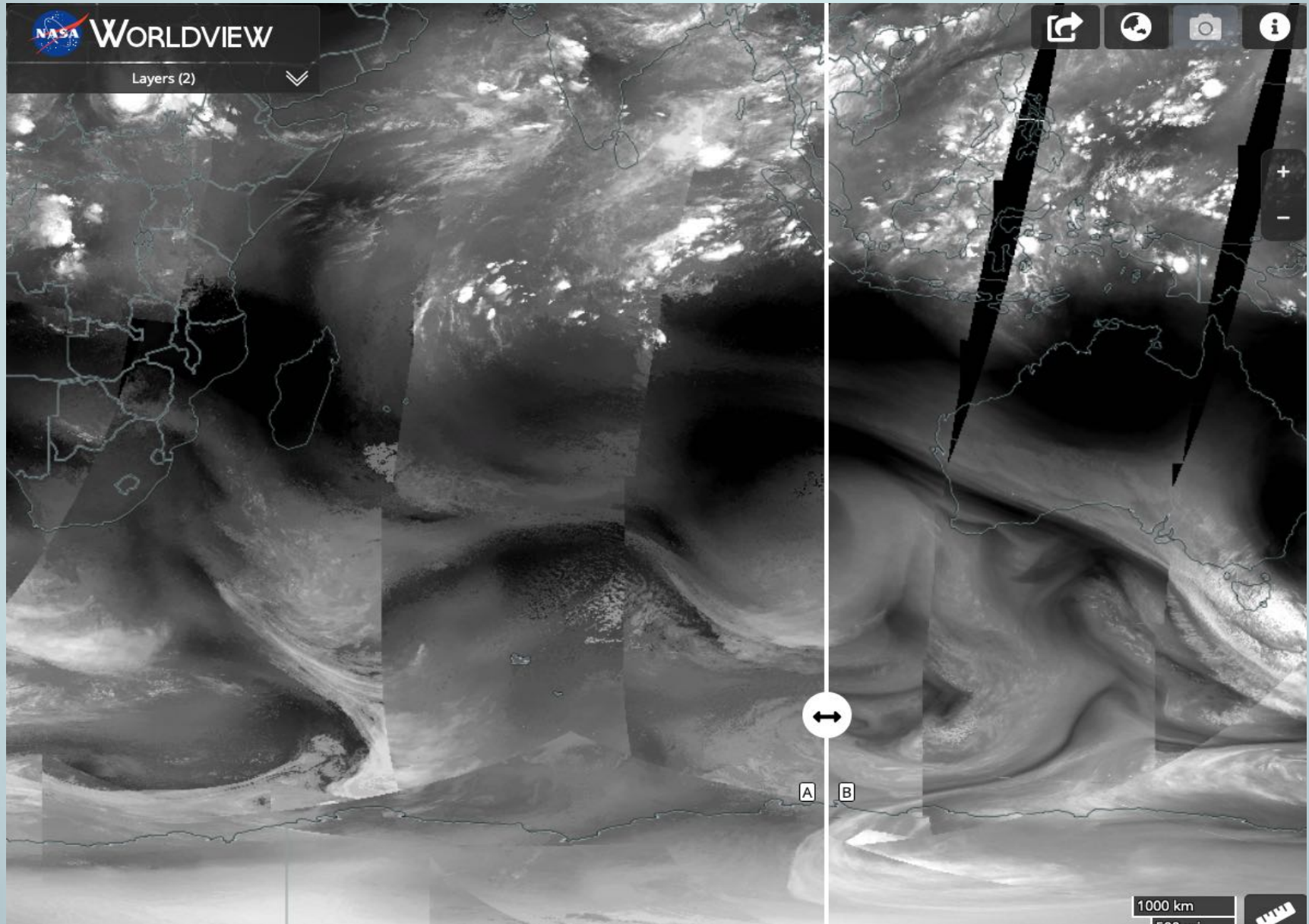
Quicklook Granule Viewer: NOAA-20 VIIRS 6.7- μm Fusion Channel Daytime



September 1, 2020

Worldview: Compare Fusion to Aqua MODIS

September 9, 2020; Band 27 (6.7 μm); Night



Fusion

Aqua MODIS

Summary

The full records of the fusion product S-NPP and NOAA-20 are now available at the NASA LAADS DAAC:

<https://ladsweb.modaps.eosdis.nasa.gov/missions-and-measurements/science-domain/viirs-cris-fusion/>

The relevant Aqua MODIS-like IR radiance channels (MODIS channels 23-25, 27, 28, 30–36) are provided in a VIIRS Level 2 granule (NetCDF4).

Also provide brightness temperature differences (VIIRS – VIIRS fusion) for M-bands 15 and 16 (split window); useful for uncertainty estimates

The VIIRS L2 granule is 6 minutes; very similar format to Level-1B

Now working on Version 2:

- latest VIIRS & CrIS calibration
- filling in data gaps as much as possible
- improving methodology